

Lars Powell, PhD

Center for Risk and Insurance Research

University of Alabama

The FORTIFIED housing movement



Top FORTIFIED Cities

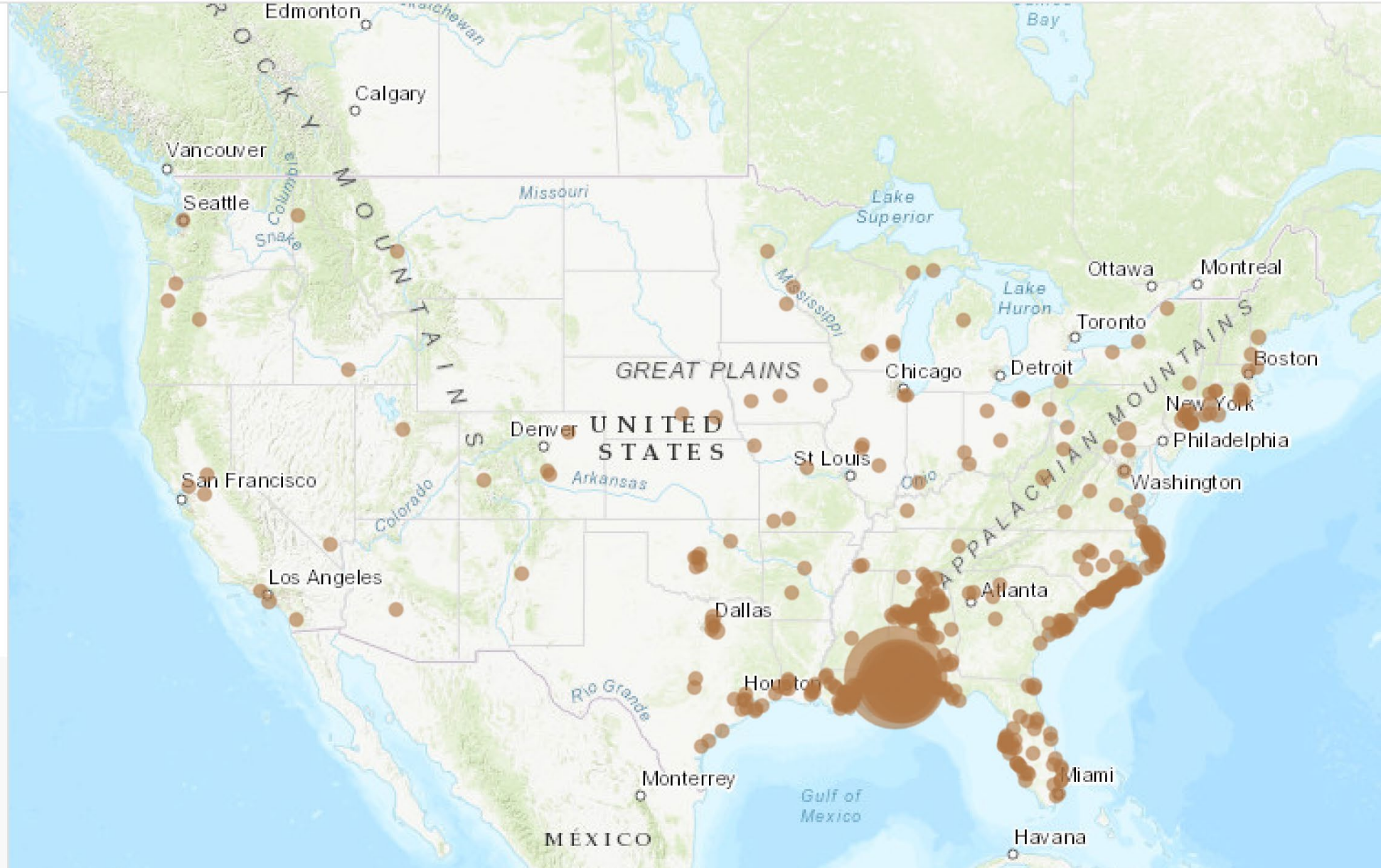
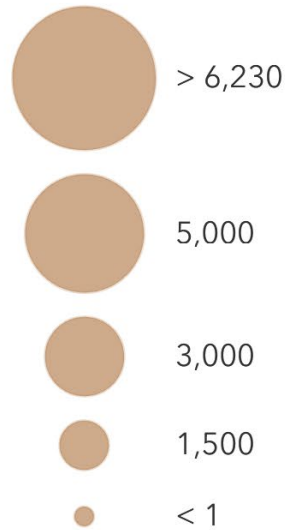
[Open in Map Viewer Classic](#)

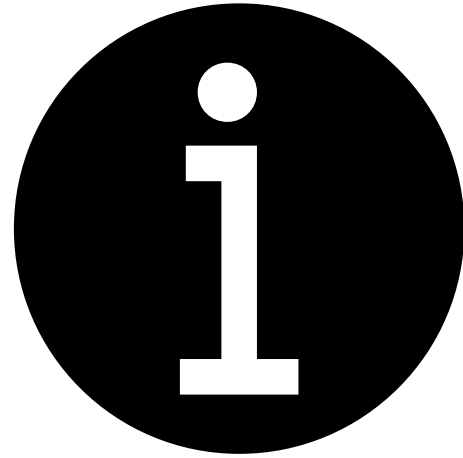
Legend



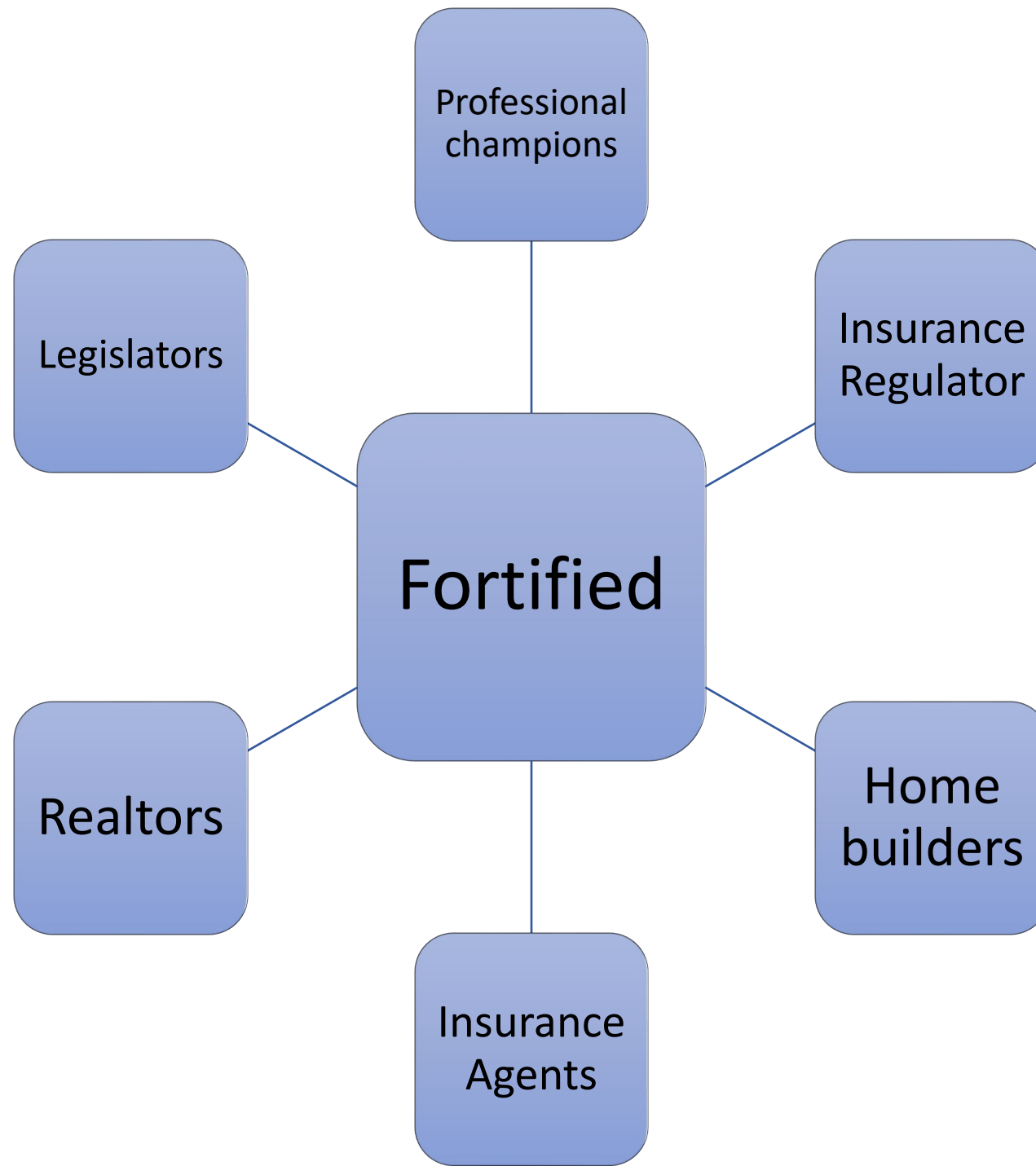
2022

Designations





The most important element

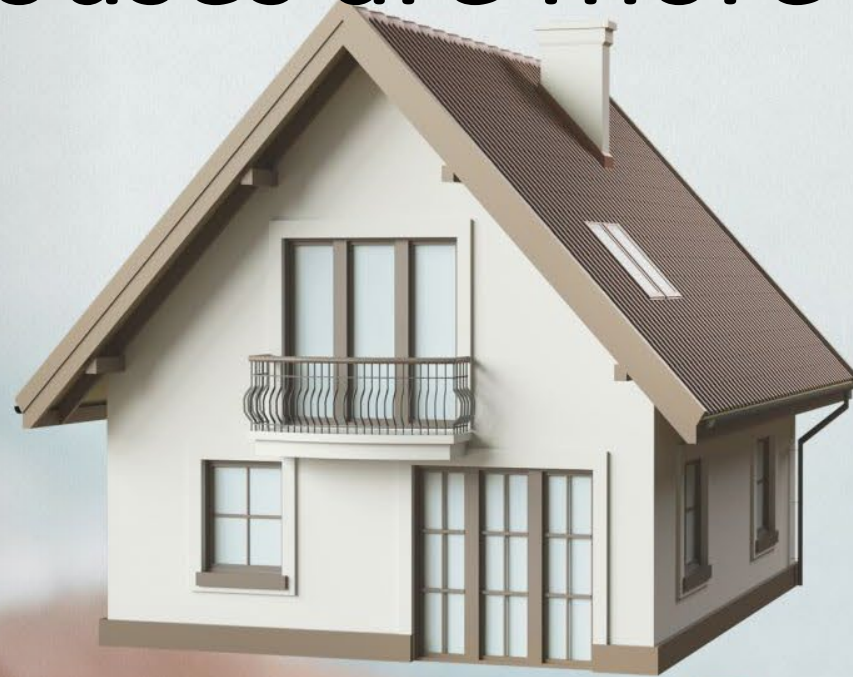


Economic Impact of FORTIFIED in Alabama

- For \$1 million spent on FORTIFIED
- \$2.2 million in output
- \$1.1 million GDP
- \$600K household earnings
- 15 jobs
- \$29,218 tax revenue



FORTIFIED Houses are more valuable

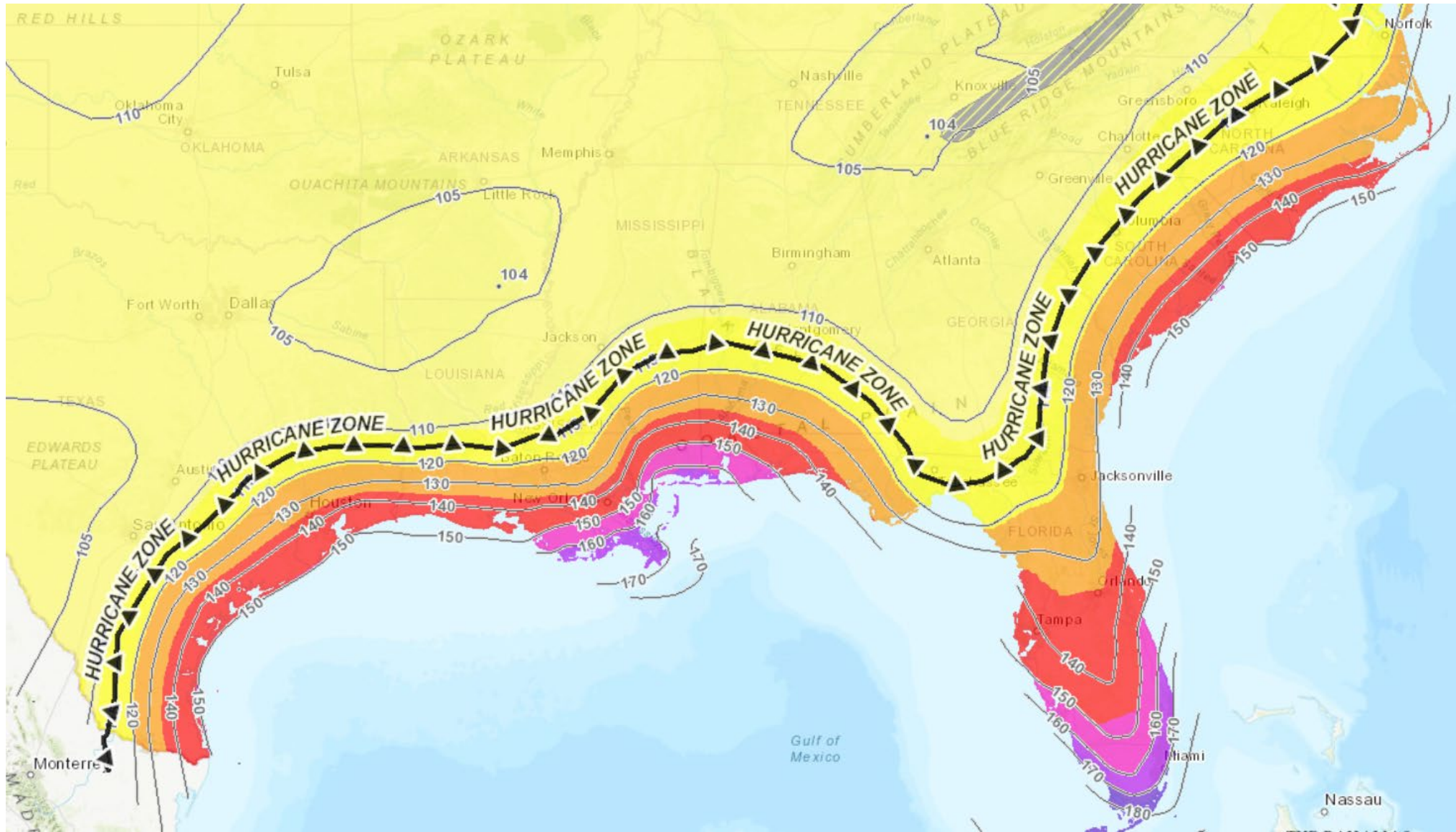


7% premium over identical standard house construction

Typical apartment building

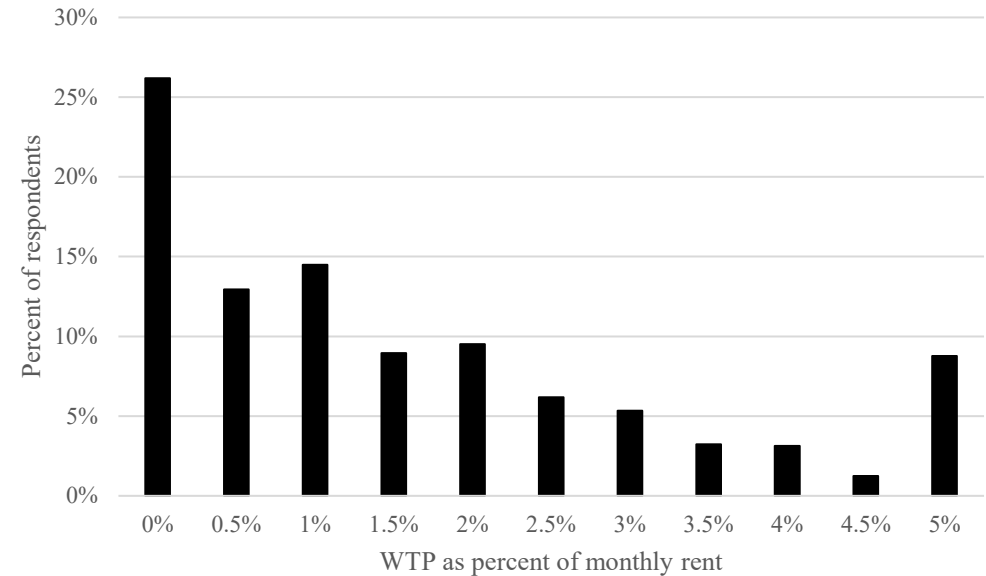


ASCE Wind Zones (<https://asce7hazardtool.online>)



Willingness to Pay Survey

- 74% willing to pay at least 0.5%
- AR, OK, TN = \$6 / month
- Coastal states = \$12 / month



Benefit /cost analysis



Table 3: Benefit Cost Analysis Results

FORTIFIED program	Hurricane		Hurricane		High Wind		High Wind+Hail	
	Roof	Gold	Roof	Gold	Roof	Gold	Roof	Gold
Wind zone	>140	>140	115-140	115-140	<115	<115	<115	<115
(1) Insurance savings	1,533	6,549	1,000	2,365	781	1,078	904	1,201
(2) Increased demand	2,160	2,160	2,160	2,160	1,080	1,080	1,080	1,080
(3) Annual benefit	3,693	8,709	3,160	4,525	1,861	2,158	1,984	2,281
(4) Initial cost	9,000	12,000	8,600	43,000	8,900	11,900	18,900	21,900
Payback period	2.44	1.38	2.72	9.50	4.78	5.52	9.53	9.60
Return (IRR)	39%	72%	35%	9%	18%	16%	8.3%	8.1%

Thank you

Lars.Powell@ua.edu



Culverhouse
College of Business

**Alabama Center for Insurance
Information and Research**